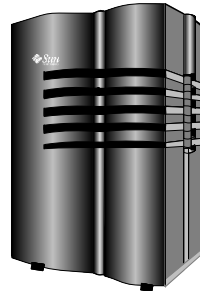


Sun Enterprise 10000 Server



Product Specifications	Ultra Enterprise 10000		
Packaging	Data Center Cabinet		
System Board Slots	16		
CPU	UltraSPARC-II		
Number of CPUs	16-64		
Clock Speed	250-336 MHz		
Cache Per Processor	Primary: 16KB instruction, 16KB data Secondary: 1MB external		
System Memory	2 GB - 64 GB		
I/O Channels	2-32		
I/O Channel Bandwidth	200 MBps each		
System Bus Bandwidth (Sustained / Peak)	10.5 GBps / 12.5 GBps		
SBus Slots	4-64		
Maximum Internal Disk Capacity	190 GB		
Maximum External Disk Capacity	> 20 TB		
Redundant Power and Cooling	Yes		
Hot Swap System Components	Yes		
System Monitor	HostView		
Solaris License	Solaris 2.5.1 or later		
Performance	16 CPU	32 CPU	64 CPU
SPECint_rate95	N/A	N/A	N/A
SPECfp_rate95	N/A	N/A	N/A
Estimated TPM	N/A	N/A	N/A
NFSops/sec @ msec/op	N/A	N/A	N/A

Sun Enterprise 10000 Server - New Systems

This is a sample ordering guide for the Sun Enterprise 10000 server. Each step outlined by a large box in the guide represents a line item on a server sales order. A minimum legal configuration can be created by choosing one option at each step of the order process marked "Required". Larger configurations can be created by choosing multiple options. Upgrade part numbers appear after this ordering flow chart.

Step 1 - Required:

SERVER BASE PACKAGE

Part Number	Description	List Price	Discount Category
E1000-3	Sun Enterprise 10000 base cabinet, cage for 16 system boards, peripheral space with power sequencer, Solaris license for unlimited users, licenses for AP and System Service Processor (SSP) software, Sun Enterprise NetBackup software	\$220,000	A

Step 2 - Required:

UltraSPARC MODULE
Minimum of 16 per system.
Maximum of 4 per System Board.
Maximum of 64 per E10000.

ULTRASPARC MODULE			
2530A	UltraSPARC module, 250 MHz, 1MB External Cache.	\$13,000	A
2550A	UltraSPARC module, 250 MHz, 4MB External Cache.	\$16,000	A
2560A	UltraSPARC module, 336 MHz, 4MB External Cache.	\$19,000	A

Note: Cache sizes may be mixed within any one system, but not within a system board.

Step 3 - Required:

SYSTEM BOARD
Minimum of 4 per system.
Maximum of 16 per E10000.

SYSTEM BOARD			
2760A	E10000 System Board with no memory, no processor modules, no I/O board.	\$65,000	A

Step 4 - Required:

SYSTEM MEMORY
Minimum of 8 x 7022A or 4 x 7023A per system.
Maximum of 4 per memory board.
Maximum of 64 per E10000.

SYSTEM MEMORY			
7022A	256MB ECC memory expansion (8 x 32MB SIMMs)	\$3,800	A*
7023A	1GB ECC memory expansion (8 x 128MB SIMMs)	\$16,000	A*

Step 5 - Required:

MEMORY BOARD
Minimum of 4 per system.
Maximum of 1 per system board.
Maximum of 16 per E10000.
Each Memory Bank accommodates 8 memory SIMMs and must be populated in pairs.

MEMORY BOARD			
7025A	E10000 Memory Board with 4 empty memory banks.	\$10,000	A

Sun Enterprise 10000 Server - New Systems (Cont.)

Step 6 - Required:

CONTROL BOARD

Minimum of 1 per system.
Two for redundancy.

Part Number	Description	List Price	Discount Category
CONTROL BOARD			
2720A	E10000 Control Board including Ethernet cable.	\$20,000	A

Step 7 - Required:

POWER SUPPLIES:

For up to 8 System Boards, order five 48 volt Power Supplies.

For more than 8 System Boards, order eight 48 volt Power Supplies.

POWER SUPPLIES			
9685A	E10000 48V Power Supply.	\$4,000	A

Step 8 - Required:

AC BREAKERS:

For up to 8 System Boards, order 3 AC breaker & filter assemblies.

For more than 8 System Boards, order 4 AC breaker & filter assemblies.

AC BREAKERS			
3875A	E10000 AC Breaker/Filter Assembly.	\$3,000	A

Step 9 - Required:

COOLING FANS:

For up to 8 System Boards, order 10 fan trays.

For more than 8 System Boards, order 16 fan trays.

COOLING FANS			
9671A	E10000 Fan Tray.	\$2,000	A

Step 10 - Required:

POWER CONTROL MODULE:

Minimum of 1 per system.
Maximum of 5 per system.

POWER CONTROL MODULE			
9681A	E10000 Power Control Module with cables to Control Board.	\$1,000	A

Sun Enterprise 10000 Server - New Systems (Cont.)

Step 11 - Required:**SYSTEM SERVICE PROCESSOR (SSP):**

Minimum of 1 per system.
Order 2 for SSP redundancy.



Part Number	Description	List Price	Discount Category
SYSTEM SERVICE PROCESSOR			
2750A	E10000 System Service Processor (SSP). SPARCstation 5 workstation with 17" color monitor, 32MB, 2.1GB internal Fast/Wide SCSI-2 disk, CD-ROM.	\$10,000	A

**Step 12 - Required:****SSP COUNTRY KIT:**

Order 1 Country Kit per SSP.



SSP COUNTRY KITS			
3500A	Type 5 Country Kit, North American	N/C	-
3576A	Type 5 Country Kit, Australian	N/C	-
3578A	Type 5 Country Kit, European Universal	N/C	-
3502A	Type 5 Country Kit, French	N/C	-
3574A	Type 5 Country Kit, Italian	N/C	-
3575A	Type 5 Country Kit, Netherlands	N/C	-
3571A	Type 5 Country Kit, Portugese	N/C	-
3507A	Type 5 Country Kit, U.K.	N/C	-

**Step 13 - Required:****SOFTWARE:**

Order must include one of each.



SOFTWARE			
SOLS-2.5.1AUG97	Solaris 2.5.1 (h/w 4/97) Server Media Kit for new systems only.	\$100	A
E10000-SW-SSP-3.1	E10000 software for the System Service Processor (SSP).	N/C	-
E10000-SW-AP	E10000 software for Alternative Pathing (AP).	N/C	-

**Step 14 - Required:****I/O SBus BOARD:**

Minimum of 4 per system.
Maximum of 10 per Enterprise 10000.



I/O SBus BOARD			
2730A	E10000 Dual SBus I/O daughter card. Provides 4 single width SBus slots (2 per SBus channel).	\$7,500	A

**Step 15 - Optional:****INTERNAL DISK STORAGE OPTIONS:**

Maximum of 3 SPARCstorage RSM's per Enterprise 10000.



INTERNAL DISK STORAGE OPTIONS			
6507AR4	SPARCstorage RSM module with 3 x 4.2GB 5400 RPM Fast/Wide SCSI disks	\$9,650	A
6508AR4	SPARCstorage RSM module with 7 x 4.2 GB 5400 RPM Fats/Wide SCSI disks	\$15,850	A
6515AR4	SPARCstorage RSM module with 7 x 9.1GB 7200 RPM Fast/Wide SCSI disks	\$22,290	A



Sun Enterprise 10000 Server - New Systems (Cont.)

Step 16 - Optional:

INTERFACES AND HOST ADAPTERS:

These options may be required to support configured mass storage and tape devices (optional).



Part Number	Description	List Price	Discount Category
INTERFACES & HOST ADAPTERS			
1012A	SinISDN Expansion Kit 1.0.1	\$595	A
1014A	Token Ring Interface/SBus (TRI/S) SBus-based Token Ring Adapter	\$1,350	A
1018A	SunSwift SBus Adapter	\$1,095	A
1019A	High-Speed Serial Interface (HSI/S), media and documentation.	\$2,275	B
1025A	SunFDDI Single-Attach SBus Adapter (SAS) 5.0	\$2,500	A
1026A	SunFDDI Dual-Attach SBus Adapter (DAS) 5.0	\$3,775	A
1053A	SBus Fast SCSI-2/Buffered Ethernet Card (FSBE/S)	\$1,095	A
1057A	25 MB/sec. SBus Fibre Channel Host Adapter	\$1,600	A
1049A	Quad FastEthernet SBus card supports Sun Trunking 1.0 software	\$1,995	A
1059A	SunFastEthernet 10/100 SBus Adapter 2.0 SBus Card	\$795	A
1060A	SunATM-155/MFiber SBus Adapter 2.0	\$1,295	A
1061A	SunATM-155/UTP5 SBus Adapter 2.0	\$995	A
1062A	SBus Differential Fast/Wide Intelligent SCSI-2 Host Adapter (DWIS/S)	\$1,295	A
1063A	SBus Single-Ended Fast/Wide Intelligent SCSI-2 Host Adapter (SWIS/S) card	\$1,195	A
1064A	SunATM-622/MFiber SBus Adapter	\$4,995	A
1065A	SBus Ultra Differential Fast/Wide Intelligent SCSI Host Adapter	\$1,295	A

Step 17 - Required:

POWER CORD FOR SYSTEM:

Order 3 power cords for 8 or less System Boards.
Order 4 power cords for more than 8 System Boards.



POWER CORD FOR SYSTEM			
3850A	E10000 Power Cord, North American version (U.S. and Canada).	N/C	-
3851A	E10000 Power Cord, International version.	N/C	-

Step 18 - Required:

POWER CORD FOR I/O IN SYSTEM CABINET:

One power cord required if RSM trays are configured in system cabinet.



POWER CORD FOR I/O IN SYSTEM CABINET			
3800A	220 volt Power Cord for Enterprise system and Expansion Cabinet, U.S. version.	N/C	A
3848A	Power Cord for Enterprise system and Expansion Cabinet, International Version (IEC 309, 32A, 250V plug)	N/C	A

Step 19 - Required:

Submit configuration to BSD SalesDesk, w/ E10000 configuration diagram.
(http://Marvin.West.Sun.Com/cte/sales_desk/)





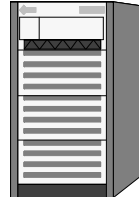
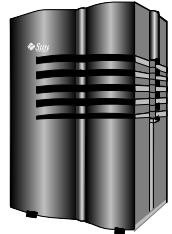
Enterprise 10000 Server Upgrades

From	Part Number and Description	List Price	Discount Category
System Upgrades			
Enterprise 6000 ¹	UG-E6000-E10000-3 System upgrade from Enterprise 6000 to Sun Enterprise 10000 base cabinet, Centerplane with two Centerplane support boards, and I/O space with power sequencer, Solaris license for unlimited users, licenses for AP and System Service Processor (SSP) software, Sun Enterprise NetBackup software	\$152,000	A
System Board Upgrades			
Enterprise 6000	UG-ENT6-ENT10-SB2 System board upgrade from two Enterprise CPU/Memory Boards to one Enterprise 10000 System board; no processor, no memory board, no SIMMs. <u>NOTE:</u> Order only with E6000 to E10000 system upgrade.	\$50,000	A*
Enterprise 6000	UG-ENT6-ENT10-SB1 System board upgrade from one Enterprise CPU/Memory Boards to one Enterprise 10000 System board; no processor, no memory board, no SIMMs. <u>NOTE:</u> Order only with E6000 to E10000 system upgrade.	\$55,000	A*
Enterprise 6000	UG-SBIO-DSBIO jBoard upgrade from Enterprise 6000 SBus I/O Board to Enterprise 10000 Dual SBus I/O Board. <u>NOTE:</u> Order only with E6000 to E10000 system upgrade.	\$6,000	A*
Enterprise 6000	UG-ENT10-SBX System board upgrade from one Enterprise 6000 CPU/Memory Board or one CS6400 system board to one Enterprise 10000 System Board; no processor, no memory board, no SIMMs.	\$56,500	A*

¹ At least one Professional Services package must be ordered as a separate line item.

* Maximum discount may apply.

Sun HPC Servers

													
Specifications	HPC 2	HPC 450	HPC 3000		HPC 4000		HPC 5000		HPC 6000		HPC 10000		
Model	2 CPUs	1-4 CPUs	4 CPUs	6 CPUs	8 CPUs	14 CPUs	8 CPUs	14 CPUs	16 CPUs	30 CPUs	48 CPUs	64 CPUs	
Processor	Ultra-SPARC-I	UltraSPARC-II	UltraSPARC-II										
Clock Speed	300MHz	250-300MHz	250-336MHz										
# CPUs	1-2	1-4CPUs	1-6		1-14		1-14		1-30		16-64		
External Cache	2MB	1-2MB	1-4MB										
I/O Slots (SBus)	4	10 PCI Bus	3-9 / 2-6		3-21 /2-21		3-21 / 2-21		3-45 / 2-12		1-64		
Memory	2GB	128MB-4GB	6GB		14GB		14GB		30GB		64GB		
Max Storage	1TB	6TB	>2TB		>4TB		>6TB		>10TB		>20TB		
System Bus Bandwidth	1.6GB/sec.	1.6GB/sec	2.6GB/sec.									12.8GB/sec.	
Software	Sun HPC Software v1.0												
Operating System	Solaris 2.5.1												
LSF Tokens	15	20	30		70		70		150		320		
Peak Performance Mflop/s	1200	2400	3000		7000		7000		15000		32000		
Linpeak DP 1000 (Mflop/sec.)	750	1457	1,126	1,607	2,038	3,112	2,038	3,112	3,493	4,755	N/A	N/A	
Linpeak DP Rmax (Mflop/sec.)	1010	2091	1,668	2,694	3,328	6,251	3,328	5,856	6,688	12,420	16,660	21,370	
Entry Configuration	2 300MHz CPUs, 512MB, 4.2GB disk, SunCD, HPC sw	2 250MHz CPUs, 128MB, 4.2GB disk, SunCD, floppy, HPC sw	2 250MHz CPUs, 256MB, 4.2GB disk, CD-ROM, HPC sw									16 250MHz CPUs, 2GB, 12.6GB disk, CD-ROM, HPC sw	

Sun HPC Server

Step 1 - Required:

Server Base Package

Refer to respective "Ultra Enterprise Server" section for minimum configured system options.



Step 2 - Required:

Sun HPC Software Media and Documentation

Minimum of 1 per site.



Step 3 - Optional:

Sun Enterprise Cluster (SCI) Options

Minimum of 1 SCI SBus switch for greater than two nodes/servers (HPC450 not supported).
Maximum 4 nodes supported.
Each system must have a SCI/SBus card plus a cable.



Part Number	Description	List Price	Disc Cat
COMPLETE CLUSTERS			
HPC2-2300-2	Sun HPC 2 server Model 2300 w/ two 300MHz UltraSPARC processors, 512-MB memory, 4.2GB 7200 RPM disk, internal SunCD 12, Sun HPC software license for a dual-processor LSF server (15 tokens). Requires Solaris 2.5 or later.	\$35,545	A
HPC450-C25-2	E450 Server, tower, SunCD12, power supply, CPU/mem board, 250MHz/2MB UltraSPARC-II, 128MB mem, 4.2GB UltraSCSI, 10 PCI I/O slots, floppy, 10/100 Ethernet, Solaris server license, HPC sw license for a 4-CPU LSF server (20 tokens)	\$17,450	D
HPC450-C30-2	E450 Server, tower, SunCD12, power supply, CPU/mem board, 300MHz/2MB UltraSPARC, 128MB mem, 4.2GB UltraSCSI, 10 PCI I/O slots, floppy, 10/100 Ethernet, Solaris server license, HPC sw license for a 4-CPU LSF server (20 tokens)	\$21,950	D
HPC3002-C50-2 ¹	E3000 Server: tower, SunCD 12, power/cooling module, CPU/mem board, two 250MHz/4MB UltraSPARC, Solaris server license, HPC software license for a 6-CPU LSF server (30 tokens)	\$43,200	A
HPC3002-C60-2 ¹	E3000 Server: tower, SunCD 12, power/cooling module, CPU/mem board, two 336MHz/4MB UltraSPARC, Solaris server license, HPC software license for a 6-CPU LSF server (30 tokens)	\$48,200	A
HPC4002-2 ¹	Sun HPC 4000 server: HPC software license for a 14-CPU LSF server (70 tokens).	\$51,800	A
HPC5002-2 ¹	Sun HPC 5000 server: HPC software license for a 14-CPU LSF server (70 tokens).	\$63,800	A
HPC6002-2 ¹	Sun HPC 6000 server: HPC software license for a 30- CPU LSF server (150 tokens).	\$171,000	A
HPC10000-2 ¹	Sun HPC 10000: HPC software license for a 64-CPU LSF server (320 tokens).	\$264,800	A

SOFTWARE			
HPC-2.0-B	Sun HPC software base package, media & documentation	\$400	B

SCI OPTIONS			
Order 1 per system:			
X1073A	SCI Host SBus Adapter	\$4,500	A
Order 1 per system/node:			
X3825A	SCI Cable, 10 meters	\$250	N/D
X3826A	SCI Cable, 2 meters	\$250	N/D
X3828A	SCI Cable, 5 meters	\$250	N/D
Optional:			
X3829A	SCI Cable Mounting Bracket for E5000, 6000, 10000	\$300	N/D

¹ Requires Solaris 2.5.1 or later.

Sun HPC Server (cont.)

Step 4 - Optional:

Software Licenses



SERVER LICENSES			
HPC-PDE1.0WF-L1	Single-user license for Parallel Development Environment 1.0, Performance WorkShop FORTRAN 3.0 slim kit	\$5,695	B
HPC-PDE1.0FC-L1	Single-user license for Parallel Development Environment 1.0, Performance WorkShop FORTRAN Compilers 4.2 slim kit	\$3,495	B



Step 5 - Optional:

Sun HPC Software Licenses



SUN HPC SOFTWARE LICENSES			
HPC-L3.0R3.0-L1	Sun HPC LSF 3.0 Base and Batch and RTE 3..0: license for 1 Uniprocessor Server (10 tokens each for LSF and RTE)	\$2,000	B
HPC-L3.0R3.0-L4	Sun HPC LSF 3.0 Base and Batch and RTE 3..0: licenses for 8-processor Server (40 tokens each for LSF and RTE)	\$8,000	B
HPC-L3.0R3.0-L16	Sun HPC LSF 3.0 Base and Batch and RTE 3..0: licenses for 32-processor Server (160 tokens each for LSF and RTE)	\$32,000	B



Step 6 - Optional:

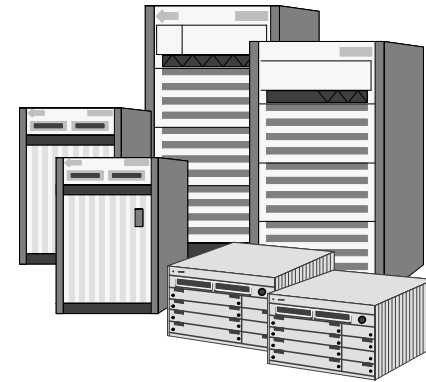
System Options
Order minimum required system options.
Refer to the relevant Sun Enterprise Server Ordering Flow Chart.



Sun HPC 2 - Order appropriate power cord
Sun HPC 450
Sun HPC 3000
Sun HPC 4000
Sun HPC 5000
Sun HPC 6000
Sun HPC 1000

Sun Enterprise Cluster 2.0

Allows for an integrated failover and parallel database clustering environment. It is a hardware, software, and service solution that provides availability, scalability, manageability, and flexibility for a customer's business-critical computing environment.



	Ultra Enterprise 1	Ultra Enterprise 2	Ultra Enterprise 450	Sun Enterprise 3000-6000	Sun Enterprise 10000	SPARCserver 1000 SPARCcenter 2000
Nodes in Cluster	2	4	2	4	4	4
Mixed Nodes	Yes	Yes	Yes	Yes	Yes	Yes
Software						
Sun Cluster	2.0					
Solaris	2.5.1 HW 8/97, and 2.6 ¹					
VERITAS VxFS	2.3.1					
Data Services HA/NFS HA/Oracle HA/Informix HA/Sybase HA/Internet Pro Oracle Parallel Server Informix XPS	v3 Oracle 7.3.2, 7.3.3, 8.0.3 ¹ Informix 7.1, 7.2 Sybase 11.0.3 Netscape Enterprise Server 2.01, Netscape News Server 2.01, Netscape Mail Server 2.02, Sun DNS on Solaris 2.5.1 Oracle 7.3.3.0.2, 8.0.3 Informix XPS 8.11					
Storage						
Dual-Initiated	MultiPack	MultiPack, SSA, RSM 2000	MultiPack	SSA, RSM 2000, Sun Enterprise Network Array A5000 (2 nodes, direct attach) ¹		RSM 2000, Sun Enterprise Network Array A5000 ¹
Multi-Initiated	N/A	RSM 2000 (4 nodes, "Y" cable) ¹	N/A	RSM 2000 (4 nodes, "Y" cable), Sun Enterprise Network Array (4 nodes, direct attach) ¹		
Interconnect Compatibility						
2-node Cluster	Ethernet	SCI and Ethernet	Ethernet	SCI and Ethernet	SCI and Ethernet	SCI and Ethernet
3 or 4-node Cluster	Ethernet ¹	SCI and Ethernet ¹	Ethernet ¹	SCI and Ethernet ¹	SCI and Ethernet ¹	SCI and Ethernet ¹
Volume Managers						
Failover Applications and XPS	VERITAS Enterprise Volume Manager [VxVM] 2.4					
Oracle Parallel Server	VERITAS Cluster Volume Manager 2.2.1					
Miscellaneous						
Node Separation	2 km	2 km	25 m	2 km	2 km	2 km
Node to SSA	2 km	2 km	N/A	2 km	2 km	2 km

¹ Available post FCS

Sun Enterprise Cluster

Step 1

Order the Cluster Nodes



Server	Minimum Configuration
Ultra Enterprise 1, Model 170 Ultra Enterprise 2	128MB, 2 CPUs (recommended)
Sun Enterprise 3000-6000	128M, 2 CPUs (recommended); 2 I/O Boards; N+1 redundant Power Colling Modules
Sun Enterprise 10000	128MB, 2 CPUs (recommended); 2 I/O Boards 2 System Boards



Step 2

Order the redundant cluster interconnect, switches, and cables.



Part Number	Description	List Price	Disc Cat
ULTRA ENTERPRISE 1			
(X)1018A	SunSwift 100BaseT Fast/Wide SCSI SBus Adapter	\$1,095	A
(X)1059A	SunFastEthernet 10/100 SBus Adapter 2.0	\$795	A
ULTRA ENTERPRISE 2			
	100 BaseT Ethernet on system board		
(X)1018A	SunSwift 100BaseT Fast/Wide SCSI SBus Adapter	\$1,095	A
(X)1059A	SunFastEthernet 10/100 SBus Adapter 2.0	\$795	A
X1073A	SCI Host SBus Adapter	\$4,500	A
Sun ENTERPRISE 3000-6000			
	100 BaseT Ethernet on I/O board		
(X)1018A	SunSwift 100BaseT Fast/Wide SCSI SBus Adapter	\$1,095	A
(X)1059A	SunFastEthernet 10/100 SBus Adapter 2.0	\$795	A
X1073A	SCI Host SBus Adapter	\$4,500	A
Sun ENTERPRISE 10000			
(X)1018A	SunSwift 100BaseT Fast/Wide SCSI SBus Adapter	\$1,095	A
(X)1059A	SunFastEthernet 10/100 SBus Adapter 2.0	\$795	A
X1073A	SCI Host SBus Adapter	\$4,500	A
SPARCserver 1000, SPARCcenter 2000			
	100 BaseT Ethernet on SPARCcenter 2000 board		
(X)1018A	SunSwift 100BaseT Fast/Wide SCSI SBus Adapter	\$1,095	A
(X)1059A	SunFastEthernet 10/100 SBus Adapter 2.0	\$795	A
X1073A	SCI Host SBus Adapter	\$4,500	A
SCI OPTIONS			
X3825A	SCI Cable, 10 meters	\$250	N/D
X3826A	SCI Cable, 2 meters	\$250	N/D
X3828A	SCI Cable, 5 meters	\$250	N/D
X3829A	SCI Cable Mounting Bracket for E5000, 6000, 10000	\$300	N/D
X3876A	SCI 4-node SCI Switch with Mounting Bracket	\$17,500	A
X311L	Power Cord for SCI Switch	N/C	D
ETHERNET OPTION			
X3837A	Null Ethernet Cable Terminal	\$125	N/D

Sun Enterprise Cluster (cont.)

Step 3

Terminal Concentrator Bundle

**Step 4**

Order the administrative workstation: SPARCstation 5 or better
Note: An existing workstation at the site may be used.

Step 5

Solaris licences are included with the server. Order the Solaris media and documentation.

Step 6a

Sun Cluster 2.0 Base software and license
Note: Includes High Availability NFS, and a VERITAS Enterprise Volume Manager license.

**Step 6b**

Sun Cluster 2.0 Base documentation



Part Number	Description	List Price	Disc Cat
TERMINAL CONCENTRATOR BUNDLE			
X1013A	SunISDN 1.0.3 Software and Documentation Single-Pack	\$95	A
X3836A	Long Serial Cable (greter than 2 node configurations only, N=3,4)	\$125	N/D
X311L	Power Cord for SCI Switch	N/C	D

Part Number	Description	List Price	Disc Cat
SUN CLUSTER 2.0 BASE SOFTWARE			
CLUS-2.0-E1	Sun Cluster 2.0 Software (E1, E2)	\$2,000	B
CLUS-2.0-E3000	Sun Cluster 2.0 Software (E3000)	\$7,000	B
CLUS-2.0-E4000	Sun Cluster 2.0 Software (E4000)	\$12,000	B
CLUS-2.0-E6000	Sun Cluster 2.0 Software (E6000)	\$24,000	B
CLUS-2.0-E10000	Sun Cluster 2.0 Software (E10000)	\$50,000	B

Part Number	Description	List Price	Disc Cat
SUN CLUSTER 2.0 DOCUMENTATION			
CLUS-2.0-DOC	Sun Cluster Documentation	\$500	B

Sun Enterprise Cluster (cont.)

Step 7

Sun Enterprise 2.0 Data Services.



Part Number	Description	List Price	Disc Cat
AGENT SOFTWARE			
	Sun cluster 2.0 NFS HA Agent (included in base software)		
CLUS-2.0-NS-L	Sun Cluster 2.0: Netscape InternetPro HA Agent	\$2,000	B
CLUS-2.0-SYBS-L	Sun Cluster 2.0: Sybase HA Agent	\$2,000	B
CLUS-2.0-INFX-L	Sun Cluster 2.0: Informix HA Agent	\$2,000	B
CLUS-2.0-ORCL-L	Sun Cluster 2.0: Oracle HA Agent	\$2,000	B
CLUS-2.0-OPS1-L	Sun Cluster 2.0: Oracle OPS Agent for E1, E2, E450, E3000, SPARCserver 1000	\$2,000	B
CLUS-2.0-OPS2-L	Sun Cluster 2.0: Oracle OPS Agent for SPARCcenter 2000, 4000-6000	\$4,000	B
CLUS-2.0-OPS3-L	Sun Cluster 2.0: Oracle OPS Agent for E10000	\$16,000	B
CLUS-2.0-XPS1-L	Sun Cluster 2.0: Informix XPS Agent for E1, E2, E450, E3000, SPARCserver 1000	\$2,000	B
CLUS-2.0-XPS2-L	Sun Cluster 2.0: Informix XPS Agent for SPARCcenter 2000, 4000-6000	\$4,000	B
CLUS-2.0-XPS3-L	Sun Cluster 2.0: Informix XPS Agent for E10000	\$16,000	B



Step 8

Storage, node-storage connections, I/O adapters



For MULTIPACK			
X1018A	SunSwift 100BaseT Fast/Wide SCSI SBus Adapter	\$1,095	A
X901A	0.8-meter 68 pin External SCSI Cable	\$125	N/D
X902A	2-Meter 68 Pin External SCSI Cable	\$125	N/D
For SPARCstorage ARRAY			
1057A	25 MB/sec. SBus Fibre Channel Host Adapter	\$1,600	A
595A	Fibre Channel Optical Module, second Fibre Channel Port for Use on the SSA or the 25MB/s SBus Fibre Channel Host Adapter	\$600	A
X973A	2-meter Fibre Channel cable	\$150	N/D
(X)978A	15-meter Fibre Channel cable	\$175	N/D



Sun Enterprise Cluster (cont.)

Step 9

Network adapters for client interconnect (IP-failover).



Step 10

Order I/O boards for the UE 3000-6000 servers. The UE 10000 has only a System board which is populated with CPU modules, memory, and SBus adapters. Order a sufficient number of boards to populate the SBus Adapters configured.



Step 11

UE 3000-6000: Order the required number of Power Cooling Modules as per the base server platform guidelines. Sun Enterprise Cluster 2.0 further recommends an additional PCM in each server for the additional (N+1) redundancy.



Step 12

After generating a valid configuration, run ScopeTool to obtain the necessary Service Approvals for this order. At this point you will also make decisions regarding the type of service product to offer. Service products are listed in the SunService Price Book. More information on the new process may be found at :
<http://www.continent.corp.sun.com/clusters>
 and at:
www.reseller.sun.com (for reseller access).

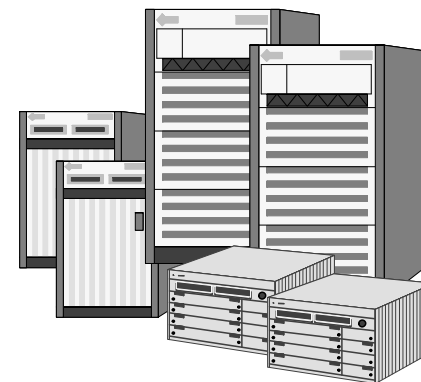
The Sun Enterprise Cluster 2.0 Configuration Guide (<http://www.continent.corp.sun.com/clusters>) has much more detailed information. Please refer to this guide or contact a SMCC Cluster Product Marketing Staff if you need more information. A list of contacts is available at: <http://www.continent.corp.sun.com/clusters>.

Part Number	Description	List Price	Disc Cat
NETWORK ADAPTERS			
ULTRA ENTERPRISE 1, 2			
	10/100 BaseT Network on System Board		
Sun ENTERPRISE 3000-6000			
2611A	Ex000 SBus I/O Board with 100MB/sec FC-AL	\$6,500	A
2620A	Graphics I/O Board with 1 UPA slot, 2 empty SBus slots, 2 empty 25 MB/sec. Fibre Channel sockets, 1 Fast/Wide SCSI interface, and one 10/100 MB/sec. Ethernet (Twisted Pair or MII) interface.	\$7,000	A
ALL Sun ENTERPRISE SERVERS (except UE 450)			
X1025A	SunFDDI Single-Attach SBus Adapter (SAS) 5.0	\$2,500	A
X1026A	SunFDDI Dual-Attach SBus Adapter (DAS) 5.0	\$3,775	A
X1014A	Token Ring Interface/SBus (TRI/S) SBus-based Token Ring adapter, TCP/IP driver software on CD-ROM and 3.5" diskette media, and documentation	\$1,350	B
X1018A	SunSwift 100BaseT Fast/Wide SCSI SBus Adapter	\$1,095	A
X1052A	SBus Fast Differential SCSI-2/Buffered Ethernet Card (DSBE/S)	\$1,095	A
X1053A	SBus Fast SCSI-2/Buffered Ethernet Card (FSBE/S)	\$1,095	A
X1054A	SBus SCSI/Buffered Ethernet Card (SBE/S)	\$1,095	A
X1049A	Quad FastEthernet SBus Card (QFE) supports Sun Trunking 1.0 software	\$1,995	A
X1059A	SunFastEthernet 10/100 SBus Adapter 2.0	\$795	A
X1060A	SunATM-155/MFiber SBus Adapter 2.0	\$1,295	A
X1061A	SunATM/UTP5 SBus Adapter 2.0	\$995	A
X1064A	SunATM-622/MFiber SBus Adapter	\$4,995	A

NOTE: Most server platforms currently place restrictions on the use and number of QFE Adapter cards.

Sun Enterprise Cluster HA Server

Designed to support highly available data services - NFS, Informix, ORACLE, Sybase, Internet, and user applications - the Ultra Enterprise Cluster HA Server provides automatic fault detection and recovery that restores data service within minutes of a service disruption. Its redundant hardware and software architecture automates recovery from failures that no single system can address.



Product Specifications	Sun Enterprise 2 HA	Sun Enterprise 3000 HA	Sun Enterprise 4000 HA	Sun Enterprise 5000 HA	Sun Enterprise 6000 HA
Nodes in Cluster	2	2	2	2	2
Mixed Nodes	No	Yes (E3002 - E6002)	Yes (E3002 - E6002)	Yes (E3002 - E6002)	Yes (E3002 - E6002)
Cluster Nodes					
Processor	200 MHz UltraSPARC	250 MHz UltraSPARC	250 MHz UltraSPARC	250 MHz UltraSPARC	250 MHz UltraSPARC
Number of Processors	1-2	2-4	2-10	2-10	2-26
Memory	64MB - 2GB	256MB - 4GB	256MB - 10GB	256MB - 10GB	256MB - 26GB
Internal Disk	2.1GB SCSI	4.2GB SCSI	4.2GB SCSI	4.2GB SCSI	4.2GB SCSI
Storage					
External Storage (Array Model 1xx/2xx)	2 (972GB max.)	2-12 (2TB max.)	2-24 (4TB max.)	2-24 (4TB max.)	2-56 (10TB max.)
RAID Levels	0, 1	0, 1	0, 1	0, 1	0, 1
Storage Interconnect	Redundant Fiber Channel	Redundant Fiber Channel	Redundant Fiber Channel	Redundant Fiber Channel	Redundant Fiber Channel
Network					
Private Interconnect	Ethernet / FDDI	Fast Ethernet / FDDI	Fast Ethernet / FDDI	Fast Ethernet / FDDI	Fast Ethernet / FDDI
Public Network	Ethernet / FDDI	Ethernet / FDDI	Ethernet / FDDI	Ethernet / FDDI	Ethernet / FDDI
Software	Solstice HA 1.3, Solstice DiskSuite 4.1, Solaris 2.5.1				
Data Services	NFS, ORACLE7, Informix 7, Sybase 11, Internet				
Miscellaneous					
Node Separation	2 m	2 m	2 m	2 m	2 m
Node to SPARCstorage Array	2 km	2 km	2 km	2 km	2 km

Sun Enterprise Cluster HA Server

Step 1

Order first cluster node or upgrade the existing node to a minimum spec for a cluster node (order the node as components from the Enterprise Server section).



Step 2

Order second cluster node or upgrade the existing node to a minimum spec for a cluster node (order the node as components from the Enterprise Server section).



Step 3

Cluster Foundation Package
Order the appropriate CFP. It contains all of the equipment necessary to connect 2 nodes together to form a cluster.



Part Number	Description	List Price	Discount Category
HA CLUSTER FOUNDATION PACKAGES			
X1308A	Ultra Enterprise Cluster 2 HA w/SSA	\$13,240	A
X1301A	Ultra Enterprise Cluster 2 HA w/ MultiPack	\$7,230	A
X1259A	Sun Enterprise HA Cluster Ex000	\$6,150	A
Other			
CLUS-2.0-DOC	Additional Sun Cluster Documentation	\$500	B
X1248A	Cluster Connect Kit	\$2,500	B



Step 4

HA 1.3 Software: Order 1 per node.



HA SOFTWARE			
HA2-1.3-S	Solstice HA 1.3 Software (E2)	\$2,000	B
HA3-1.3-S	Solstice HA 1.3 Software (E3000 and S1000)	\$7,000	B
HA4-1.3-S	Solstice HA 1.3 Software (E4000 and S2000)	\$12,000	B
HA5-1.3-S	Solstice HA 1.3 Software (E5000)	\$12,000	B
HA6-1.3-S	Solstice HA 1.3 Software (E6000)	\$24,000	B



Step 5

Power Cord Kit(s)
Enterprise 2, 3000, and 4000 need power cord X311L.
Enterprise 5000 and 6000 need X83xxA.



POWER CORD KITS			
X311L	Enterprise 2, 3000, 4000 Power Cord	N/C	D
3800A	Enterprise 5000, 6000 Power Cord, U.S. version	N/C	D
3848A	Enterprise 5000, 6000 Power Cord, Internation version	N/C	D



Sun Enterprise Cluster HA Server (cont.)

Step 6

SPARCstorage Arrays

Order at least 2 extra SSAs or 2 MultiPacks, if the customer does not already own them.



Part Number	Description	List Price	Discount Category
STORAGE			
(X)6590A(R4/R5) ^{1,2,3}	SSA Model 112, 6x2.1GB disks	\$21,400	A
(X)6591A(R4/R5) ^{1,2,3}	SSA Model 112, 18x2.1GB disks	\$33,400	A
(X)6592A(R4/R5) ^{1,2,3}	SSA Model 112, 30x2.1GB disks	\$45,400	A
(X)6517A(R4/R5) ^{1,2,3}	SSA Model 114, 6x4.2GB disks	\$24,100	A
(X)6518A(R4/R5) ^{1,2,3}	SSA Model 114, 18x4.2GB disks	\$41,500	A
(X)6519A(R4/R5) ^{1,2,3}	SSA Model 114, 30x4.2GB disks	\$58,900	A
X796A	75.6GB SSA 214 RSM	\$59,600	A
X797A	176.4GB SSA 214 RSM	\$84,400	A
X6595A	164.8GB SSA 219 RSM	\$95,460	A
X6596A	382.2GB SSA 219 RSM	\$154,740	A
X5511A	4.2GB (2x2.1GB) MultiPack for E2 HA	\$2,900	A
X5506A	54.6GB (12x9.1GB) MultiPack for E2 HA	\$14,920	A
959A	SSA Accessories Kit	N/C	N/D

¹ Append an "X" before the Order Number for standalone orders.

² Enterprise 5000 and 6000 only: append an "R4" after the Order Number for factory-installation.

³ Enterprise 3000 and 4000 only: append an "R5" after the Order Number for factory-installation.

Step 7

Fiber Channel Optical Modules

Order at least 2. Each SSA in the cluster must be dual ported: 1 FC/OM is included with each SSA purchased. Order 1 extra FC/OM for each additional array purchased.



FIBER CHANNEL OPTICAL MODULE			
595A	Fiber Channel Optical Module	\$600	A

Step 8

Fiber Optic Cables

Order at least 2 for every non system rack-mounted SSA. 1 cable is bundled with the Cluster Foundation Package.



FIBER OPTIC CABLE			
X978A	Fiber Optic Cable	\$175	A

Step 9

Data Service Module Licenses

Oracle, Sybase, Informix, or Internet users must purchase a Data Service for each node in the cluster. A single cluster can run multiple Data Services.



HA DATA SERVICE MODULES			
HAI-1.3-L	HA-Informix Data Service Module	\$2,000	B
HAO-1.3-L	HA-Oracle Data Service Module	\$2,000	B
HAS-1.3-L	HA-Sybase Data Service Module	\$2,000	B
HAN-1.3-L	HA-Internet Data Service Module	\$2,000	B

Sun Enterprise Cluster HA Server (cont.)

Step 10

Solaris 2.5.1 Media Kit
Order 1 per node.



Part Number	Description	List Price	Discount Category
MEDIA KIT			
SOLS-2.5.1AUG97	Solaris 2.5.1 Server Media Kit	\$100	A



Step 11

Public Network Connections
Order at least 1 per node. FDDI and Ethernet are supported as public network connections.



PUBLIC NETWORK CONNECTIONS			
1042A	Quad FastEthernet SBus (QFE)	\$1,995	A
1025A	SunFDDi Single-Attach SBus Adapter (SAS) (FDDI-5)	\$2,500	A
1026A	SunFDDi Dual-Attach SBus Adapter (DAS) (FDDI-5)	\$3,775	A
1059A	SunFastEthernet 10/100SBus Adapter 2.0	\$795	A



Step 12

SunService HA Support Package
The SunService Package is mandatory for all cluster orders and includes installation, training, and consulting services. In addition, the customer must be upgraded to at least Gold or Platinum hardware support.



Step 13

Node or Storage Options
Add any node or storage options required. Refer to Enterprise Server configuration guidelines.

This page is intentionally blank.